

PRODUCT INFORMATION



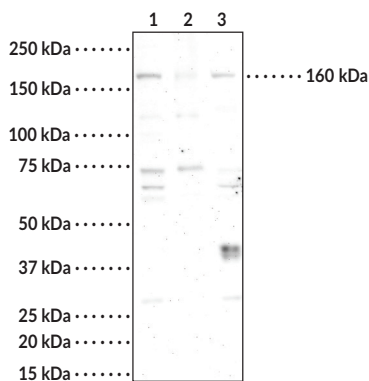
YTHDC2 Polyclonal Antibody

Item No. 28224

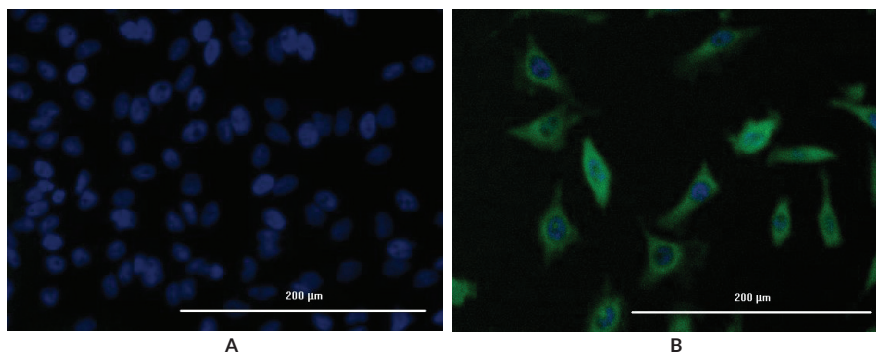
Overview and Properties

| | |
|----------------------------|--|
| Contents: | This vial contains 500 µg of protein A-purified polyclonal antibody. |
| Synonyms: | hYTHDC2, 3'-5' RNA Helicase YTHDC2, YTH Domain-containing Protein 2 |
| Immunogen: | Full-length recombinant human YTHDC2 protein |
| Species Reactivity: | (+) Human; other species not tested |
| Uniprot No.: | Q9H6S0 |
| Form: | Liquid |
| Storage: | -20°C (as supplied) |
| Stability: | ≥3 years |
| Storage Buffer: | PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide |
| Host: | Rabbit |
| Applications: | Immunofluorescence (IF), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for IF is 1:100 and 1:200 for IHC and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

Images



Lane 1: HeLa Cytoplasm Lysate (35 µg)
Lane 2: DLD-1 Cell Lysate (35 µg)
Lane 3: RT4 Cell Lysate (40 µg)



Immunofluorescence staining of HeLa cells. Cells were fixed with 3.7% PFA, permeabilized, and blocked with 1% fetal bovine serum. Cells were probed with the indicated antibodies and counterstained with Hoescht. **Panel A:** No primary antibody control with Cayman's Goat Anti-Rabbit IgG FITC secondary antibody (Item No. 10006588) at 1:100. **Panel B:** Cayman's YTHDC2 Polyclonal Antibody (Item No. 28224) at 1:100 followed by Cayman's Goat Anti-Rabbit IgG FITC secondary antibody at 1:100.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

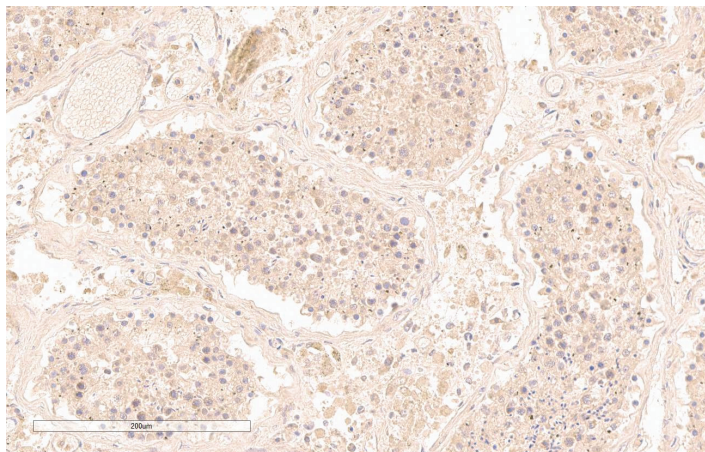
SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human testis tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with YTHDC2 Polyclonal Antibody, (Item No. 28224) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

Description

YTH domain containing 2 (YTHDC2) is an ATP-dependent 3'-5' RNA helicase and a member of the DExD/H-box family of helicases.¹ YTHDC2 contains ATP binding, ATP hydrolysis, and RNA binding motifs.¹ The YTH domain binds to N⁶-methyladenosine-modified germline messenger RNA to regulate meiotic gene expression in mammalian germ cells, mediating the mitotic-to-meiotic transition in mouse germ cells.^{2,3} *Ythdc2*^{-/-} male and female mice show disrupted meiotic prophase progression.³ Male *Ythdc2*^{-/-} mice have degraded germ cells and lack mature spermatozoa, while female *Ythdc2*^{-/-} mice lack developing ovarian follicles and have few germ cells. YTHDC2 also facilitates hepatitis C virus (HCV) genome replication by binding to the HCV replication cofactor cyclophilin B and the HCV RNA polymerase non-structural protein 5B (NS5B).⁴ YTHDC2 downregulation inhibits proliferation in Huh7 hepatocellular carcinoma cells and reduces metastasis in a Y2KD-116 mouse xenograft model using HCT116 cells in which YTHDC2 is downregulated.^{4,5} The expression of YTHDC2 in isolated human tumor tissue is positively correlated with tumor stage and lymph node metastasis.⁵ Cayman's YTHDC2 Polyclonal Antibody can be used for immunofluorescence, immunohistochemistry, and Western blot applications. The antibody recognizes YTHDC2 at 160 kDa from human samples.

References

1. Tanabe, A., Konno, J., Tanikawa, K., *et al.* Transcriptional machinery of TNF- α -inducible YTH domain containing 2 (YTHDC2) gene. *Gene* **535(1)**, 24-32 (2014).
2. Wojtas, M.N., Pandey, R.R., Mendel, M., *et al.* Regulation of m⁶A transcripts by the 3'→5' RNA helicase YTHDC2 is essential for a successful meiotic program in the mammalian germline. *Mol. Cell* **68(2)**, 374-387 (2017).
3. Bailey, A.S., Batista, P.J., Gold, R.S., *et al.* The conserved RNA helicase YTHDC2 regulates the transition from proliferation to differentiation in the germline. *Elife* pii:e26116, (2017).
4. Morohashi, K., Sahara, H., Watashi, K., *et al.* Cyclosporin A associated helicase-like protein facilitates the association of hepatitis C virus RNA polymerase with its cellular cyclophilin B. *PLoS One* **6(4):e18285**, (2011).
5. Tanabe, A., Tanikawa, K., Tsunetomi, M., *et al.* RNA helicase YTHDC2 promotes cancer metastasis via the enhancement of the efficiency by which *HIF-1 α* mRNA is translated. *Cancer Lett.* **376(1)**, 34-42 (2016).

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